BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

FILED
3-23-17
04:59 PM

Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources.

Rulemaking 14-10-003

(Filed October 2, 2014)

Comments on "Distributed Energy Resources Cost Effectiveness Evaluation: Societal Test, Greenhouse Gas Adder, and Greenhouse Gas Co-Benefits : An Energy Division Staff Proposal," of 350 Bay Area

AMY ALLEN

Member, Steering Committee,

350 Bay Area

2511 Hearst Ave, #305

Berkeley, CA, 94709

Telephone: (217)-220-1621

E-Mail:
amyallen@alumni.stanford.edu

March 23, 2017

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Create a Consistent Regulatory Framework for the Guidance, Planning, and Evaluation of Integrated Distributed Energy Resources.

Order Instituting Rulemaking R.14-10-003
(Filed October 2, 2014)

March 23, 2017

Comments on "Distributed Energy Resources Cost Effectiveness Evaluation: Societal Test, Greenhouse Gas Adder, and Greenhouse Gas Co-Benefits: An Energy Division Staff Proposal"

Submitted by 350 Bay Area

Background:
350 Bay Area is a non-profit, all-volunteer organization working for deep reductions in carbon emissions in the Bay Area and beyond. Founded in 2012, 350 Bay Area has a reach of eleven thousand people, primarily concentrated in the nine Bay Area counties. 350 Bay Area is an influential voice in the regional environmental movement. The vast majority of 350 Bay Area's members obtain residential electrical service from one of California's investor-owned utilities. One of the 350 Bay Area members who prepared these comments is Claire Broome, MD who performed, published, and used cost-effectiveness analyses for policy decision making in her 28 years as a scientist at the US Centers for Disease Control and Prevention (CDC).

Comments:
350 Bay Area strongly endorses the importance and urgency of the Phase 3 objective to "**Align the cost-effectiveness framework with California's environmental goals**". The staff proposal is a welcome contribution to CPUC leadership to achieve an accurate accounting of the costs and benefits to the California public of distributed energy resources (DER). The importance of Phase 3 of this proceedings to California is difficult to overstate—the proposal to incorporate societal costs is central, not peripheral to planning California's energy future.

The current **failure to incorporate direct, current, and measurable economic benefits of renewable energy sources (distributed and otherwise)** into policy relevant cost effectiveness analyses seriously **undermines** the commission's **ability** to meet its mission **to balance least cost, reliability, and attention to the state's climate policy goals; analyses that do not include these benefits are intrinsically biased against renewable resources.** Excluding the well documented costs directly attributable to criteria and toxic air pollutants resulting from fossil fuel combustion such as hospitalizations, medical care, and premature death from asthma,

chronic obstructive pulmonary disease and cardiovascular disease results in economic analysis biased against renewable energy compared to fossil fuel generation.

Since 1990 there has been a **legislative mandate to include** air quality health impacts and greenhouse gas effects in calculating the cost-effectiveness of energy resources. As noted on p 14 of the staff proposal Assembly Bill 3995 (Sher, Ch.1475, Stat. 1990) Section 701.1 C states "In calculating… the Commission shall include, in addition to other ratepayer protection objectives, a *value for any costs and benefits to the environment, including air quality.*" (emphasis added)

There is also a **clear scientific basis for including these costs**. It is well recognized that many of the direct costs of fossil fuel combustion are not reflected in the market price of fossil fuels i.e. are externalized. The IOU's are able to externalize these costs and health impacts onto the citizens and ratepayers of California, but addressing that is outside the scope and authority of the CPUC. However, there is ample justification for the CPUC to include such direct costs into decisions based on cost-effectiveness analysis done from the perspective of ratepayers and society (which should be the primary perspective of the CPUC). The US National Academy of Sciences (National Academy of Sciences Hidden Costs of Energy 2010) summarizes the compelling and substantial scientific evidence that these are real and direct costs.

It is particularly appropriate to include these direct damage costs because when the current system externalizes costs such as health impact of criteria pollutants, these costs are paid by the California residents who get asthma and lung disease as well as by other members of the public who pay for unrecovered costs in the health care system—many of these residents are also ratepayers. At the same time, IOU shareholders (who may reside in other states or countries) do not pay for these health impacts and in effect profit from the artefactually low cost of fossil fuels. So accounting correctly for direct costs of fossil fuel combustion is only fair to ratepayers, as well as to California society.

Inappropriately valuing renewable and preferred resources such as energy efficiency may also lead to stranded fossil fuel generating assets and excess capacity, so the cost impact to ratepayers of this bias against preferred resources is complex; correcting this bias may in some instances produce cost savings. Similarly, the current costs of climate change due to fossil fuel combustion are externalized and therefore paid by the public/ratepayers while shareholder profits are not subject to these costs.

The CPUC can also provide leadership by **aligning their approach to cost-effectiveness analyses with other California state agencies** so that there can be an effective and systemwide analysis of feasible and cost-effective paths to implement California state policy to reduce GHG emissions.

350 Bay Area strongly urges the commissioners, the administrative law judges, and Energy Division staff to maintain an overarching orientation for the benefit of the public, who are both ratepayers and citizens of California, as they consider answers to the questions below from the many interested parties. While this orientation might be assumed, the staff proposal includes two interesting examples where the perspective of the regulated utilities and/or the narrowest definition of ratepayer interest appears to predominate.

1) Recommendation of a discount rate. As the staff proposal notes on page 20 and 21, a discount rate is used for two different conceptual objectives-- for a regulated utility it may represent the cost of capital—ie based on expected return on investment if capital were deployed elsewhere. However, discount rates are also used by economists to incorporate a preference for present value over future benefit. The latter would seem to be an appropriate discount rate for the primary analyses which the CPUC is tasked with doing i.e. to consider perspective of the public not utility shareholders. In some Program Administrator tests, a cost of capital discount rate such as the WACC may be appropriate, but that should not be the primary perspective. Of note, the staff proposes use of the WACC for the TRC.

2) Consideration for "ratepayers": On page 13 the staff proposal states "There is an inherent asymmetry in the SCT between costs (born entirely by ratepayers) and benefits (accruing to ratepayers and society at large). Because of this, it becomes important to be judicious about consideration of societal benefits in any cost-effectiveness analysis." This perception of "asymmetry" is puzzling—ratepayers ARE the public who have been affected for years by the externalized health impacts and their costs, as well as the costs due to climate change. Indeed, we suggest that not using the Societal Cost Test has prioritized stakeholder profit over the public and ratepayers.

Questions from ALJ Hymes:

Below are 350 Bay Area responses to certain of ALJ Hymes' questions. We are not commenting on all the questions at this time but reserve the option to comment on other questions in the future.

1) 350 Bay Area strongly supports the staff recommendation for **adoption of a single consistent SCT for use in evaluation of all types of DER**. Arguments in addition to those mentioned by staff include a)the above framing that the societal cost test incorporates critical information important for safeguarding the economic welfare and health of the public and b) the full partnership of the CPUC in planning and implementing California state climate policy.

2) 350 Bay Area argues that **qualitative assessments are insufficient** to meet the legislative mandate cited above to "calculate" such costs and benefit. Quantitative assessments are also needed for informed public discussion of important energy system issues. As seen with the 2015

state conversation on continuation of the retail Net Energy Metering policy, utilities widely and publically alleged—and calculated—enormous "cost shifts" based on use of the Ratepayer Impact Test (the limitations of RIM are clearly noted by RAP); totally absent from the discussion was the cost low income ratepayers bear for the health impact of continued reliance on fossil fuels. An accurate and fair quantitation of the scientifically determined costs and benefits would benefit informed public discussion.
In addition, despite arguments from some of the parties, health and public health fields provide a reliable scientific basis to obtain incidence and cost figures from credible sources for the adverse health effects attributable to criteria and toxic air pollutants.

5) Of the staff guiding principles, two are paramount: **consistency with state policy and consistency with other state agency methods**. The CPUC should be a key partner for California in meeting its climate goals. Many of the CPUC regulated entities interface with other sources of GHG emissions in California. Hence, approaches which facilitate a system wide strategic approach to meeting our challenging but critical climate goals is important.

Other principles that are important are the use of existing public agency tools and calculators, simplicity which we would pair with transparency, and responsiveness to explicit statutory language.

While a graduated approach makes some sense, it is important to recognize that this is not *terra incognita*. As RAP details, many states use SCT and a TRC that include direct costs. There is a rich academic literature on both the health impacts of criteria and toxic air pollutants and GHG impacts, as well as documents from expert bodies identifying reliable inputs on the categories proposed by staff.

6. We agree with the staff recommendations for the specific societal impacts to consider in this initial version of the SCT

7. **The most appropriate discount rate is 1.4%** as thoughtfully laid out in the Stern report (The Stern Review on the Economic Effects of Climate Change 2006). Given the urgency of the climate crisis, the benefits of prompt action, compared to the costs and damage impact of delayed reduction of greenhouse gases, support using a discount rate of 1.4%. Use of a societal discount rates of 3% real is certainly better than use of the variable US government security yields or the avoided cost of capital. The discount rate is an area where sensitivity analysis is both simple and informative i.e. most analyses should show the results of using alternate discount rates in addition to whatever rate is selected as default.

9. We agree with calculating air quality values using the proposed EPA tool for the above principles of simplicity and consistency.

11. In keeping with the overarching principles described in our introduction, we feel it is essential that accurate cost accounting for the benefits of renewable energy and distributed energy resources should be identifiable in the Total Resource Cost and the PAC tests. This should be **not only a greenhouse gas adder but also a factor incorporating the currently externalized costs of criteria and toxic air pollutants due to avoided consumption of fossil fuel.**

We also urge that **the modified TRC and PAC use a social discount rate** again to be consistent with California state policy which is to appropriately value current investments to avoid the climate crisis. At an absolute minimum, any analysis which uses WACC should also provide a sensitivity analysis showing the results of the analysis using a 3% social discount rate rather than the WACC.

12. 350 Bay Area strongly urges the commission **to utilize the damage cost approach** to determining the greenhouse gas adder. Our recommendation is based on the guiding principles for consistency with state policy and consistency with what is used by other state agencies. For example E3's pathway analysis of alternate strategies for power generation includes no value for the health impacts of the different scenarios. CARB's REMI analysis builds in the health impacts—but doesn't capture much of the energy sector. It would be more informative for the economic analysis to be able to provide a system wide view of state greenhouse gas mitigation scenarios to permit a consistent approach to accurately valuing the impact of fossil fuel generation.

13. We support the **use of the damage cost approach and specifically feel that CPUC should use the same methods that CARB uses-- initially the EPA social cost of carbon**, but it seems likely that CARB will be generating California values for the future.

14. We strongly endorse the staff proposal to include a new input to the avoided cost calculator which **quantifies the co-benefits**

17. While a staff led process is appropriate for moving forward expeditiously, we encouraged staff to seek technical consultants in addition to E3 and RAP who are experienced with cost-effectiveness analyses of health impacts.

We question any further use of a consensus work group for this complex, technically demanding area. This is especially important because there are financial interests at stake. Our experience in the work group is that the IOU can send many employees to participate; it is more challenging for non-profits and organizations dependent on volunteers to have as many voices at the table. A concrete example of how this may result in false "consensus" is the recommendation for use of the WACC from the final report of the Working Group:

> Although the Working Group claims consensus on this point, the minutes of the April 18, 2016 meeting during which the issue was discussed show that two participants disagreed with use of the WACC.

"Woychik (SI) and Gersen (Sierra Club) agree with consistency but would support use of societal discount rate." (Joint IOU Final Report of the IDER Cost-Effectiveness Working Group, page 19, May 31, 2016).

Questions on the literature review

1. Based on our professional experience in cost-effectiveness and decision analysis, it is preferable to characterize the factors included in the SPM tests as "direct" (or "indirect") costs rather than non-energy and energy.
3. We would recommend either the SCT or a modified TRC that includes societal discount rate, GHG adder, and health impact direct costs as the primary test relied on by the CPUC for decision-making on funding decisions, program implementation, strategic planning etc. It is appropriate to consider costs and benefits from the perspective of different parties but ultimately the CPUC should be making decisions as a state agency on behalf of members of the public who, in addition to being ratepayers, breathe the air and experience health impacts

Comments on the Cost Effectiveness WG final report

1. It has been argued that in the face of the urgency of climate change, a discount rate of 1.4% be used. While the WACC may be appropriate for cost-effectiveness analyses specifically undertaken from the utility perspective, many cost-effectiveness analyses such as the TRC and the SCT should be more appropriately considered from the perspective of all participants or the general population. Therefore we do not agree with the WG recommendation for use of the WACC.

   We also note that although the Working Group claims consensus on the use of the WACC, the minutes of the April 18, 2016 meeting during which the issue was discussed show that two participants disagreed with use of the WACC.
   "Woychik (SI) and Gersen (Sierra Club) agree with consistency but would support use of societal discount rate." (Joint IOU Final Report of the IDER Cost-Effectiveness Working Group,page 19, May 31, 2016).

   Furthermore, the logistics of using a different WACC for each utility for a given period of time seems unnecessarily complex. Currently, the WACC for PG&E is 3.4% while for SCE, the WACC is 3.97%. Why not use the standard 3% discount rate used for societal cost tests? Whatever rate is used should be subjected to a sensitivity analysis documenting the impact of using different rates. This is particularly important for analyses using the WACC which may be particularly high (see NEM public tool discount rates).

2. Uncertainty around the appropriate discount rate can be addressed by requiring sensitivity analyses to be done utilizing alternative discount rates to that selected as the default option for a given analysis.

4. The commission is to be congratulated for its recognition of the complexity of accurately valuing DER as DER's may provide multiple values streams as well as a short lead time to implement. For example, utility scale storage capability provides novel opportunities for meeting the state's climate goals efficiently and cost-effectively while avoiding curtailment of renewable resources. We encourage the commission to analyze cost effectiveness of DER on a wider scale rather than looking at proceeding specific or technology specific analyses. We also think it is crucial that all of these analyses include an accurate accounting for the true costs of avoided greenhouse gas emissions, and avoided criteria and toxic air pollutants.

March 23, 2017

Signed: ayallen /s/

AMY ALLEN, MEMBER, STEERING COMMITTEE, 350 BAY AREA

Address: 2511 Hearst Ave, #305, Berkeley, CA, 94709

Phone: (217)-220-1621

E-Mail: amyallen@alumni.stanford.edu